

What is claimed is:

1. A hinge structure, comprising:

5 a pivot shaft being provided at a first end with a mounting section for connecting to a mainframe of a clam-type electronic apparatus, and at a second end with a shaft section having a tightening section provided at a free end thereof;

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a bracket that is an L-shaped member having a first arm serving as a mounting arm for connecting to a screen of said clam-type electronic apparatus, and a second arm normal to said first arm; said second arm being provided at a predetermined position with a shaft hole for rotatably engaging with said shaft section of said pivot shaft;

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a fastening member; and

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at least one internally toothed clamp ring located between said bracket and said fastening member, and provided along an inner circumferential edge with a plurality of radially inward projected teeth;

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said bracket and said at least one internally toothed clamp ring being sequentially mounted on said pivot shaft and said fastening member being screwed to said tightening section at the second end of said pivot shaft to form said hinge structure;

said mounting section of said pivot shaft and said mounting arm of said bracket being connected to said mainframe and said screen, respectively, of said clam-type electronic apparatus;

said teeth of said at least one internally toothed clamp ring being adapted to firmly engage with and grip at an outer surface of said shaft section of said pivot shaft, and thereby preventing said fastening member from turning along with said screen when said screen is pivotally turned, ensuring said fastening member is not separated from said pivot shaft after said screen has been pivotally turned many times.

2. The hinge structure as claimed in claim 1, further comprising a locating ring, an oil ring, and a lugged ring provided between said pivot shaft and said second arm of said bracket; and a lugged ring, an

oil ring, and a locating ring provided between said second arm of said bracket and said at least one internally toothed clamp ring; each of said lugged rings being provided on a circumference thereof with a lug that is axially extended toward one side to be perpendicular to said lugged ring; and said bracket being formed on said second arm to an inner side of said shaft hole with a receiving hole corresponding to said lug on said lugged ring, such that said two lugged rings are separately located at two opposite sides of said shaft hole on said second arm of said bracket with said lugs extended into said receiving hole from two opposite sides of said receiving hole.

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3. The hinge structure as claimed in claim 1, further comprising at least one slit conical washer, a sleeve, and a flat washer located between said at least one internally toothed clamp ring; each of said slit conical washers being a non-closed spiral member and defines a slit between two free ends thereof; said slit conical washer having an outer surface downward and outward inclined from an inner diameter toward an outer diameter thereof to provide a taper, so that said slit conical washer may endure a

relatively large compressive force; and said slit conical washer also providing an axial elastic force against other components put on said shaft section of said pivot shaft, so that said other components elastically and tightly bear against one another; and said elastic force applied by said slit conic washer to said other components being adjustable by tightening said fastening member to said tightening section of said pivot shaft by different degree, and therefore being usable in controlling the tightness by which said bracket is pivotally connected to said pivot shaft.

4. The hinge structure as claimed in claim 1, wherein said mounting section on said pivot shaft is provided with at least one mounting hole, via which said pivot shaft is connected to said mainframe of said clam-type electronic apparatus.

5. The hinge structure as claimed in claim 1, wherein said tightening section on said pivot shaft is provided on an outer surface with screw threads, and said fastening member is a nut corresponding to said screw threads for said fastening member to screw to said tightening section.

6. The hinge structure as claimed in claim 1, wherein
said mounting arm of said bracket is provided with
at least one mounting hole, via which said bracket
5 is connected to said screen of said clam-type
electronic apparatus.
7. The hinge structure as claimed in claim 1, wherein
said shaft section of said pivot shaft is provided
10 with a swing-stop section, which includes a flat
surface; and wherein a locating ring and an oil ring
are provided between said pivot shaft and said
bracket, and an oil ring and a locating ring are
provided between said bracket and said at least one
15 internally toothed clamp ring; said locating ring
being provided on an inner circumferential edge with
a straight section corresponding to said flat
surface of said swing-stop section on said shaft
section, such that said locating ring is mounted
20 on said shaft section with said straight section
bearing against said flat surface of said swing-stop
section, enabling said locating ring to locate on
said pivot shaft without turning relative to said
shaft section.

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8. The hinge structure as claimed in claim 1, wherein
said shaft section is provided with a swing-stop
section, which includes a flat surface; and wherein
a locating ring, at least one oil ring, and a lugged
5 ring are provided between said pivot shaft and said
bracket; and a lugged ring, at least one oil ring,
and a flat washer are provided between said bracket
and said at least one internally toothed clamp ring;
each of said lugged rings being provided on a
10 circumference thereof with a lug that is axially
extended toward one side to be perpendicular to said
ring; and said bracket being formed on the second
arm to an inner side of said shaft hole with a
receiving hole corresponding to said lug on said
15 lugged ring, said two lugged rings being separately
located at two opposite sides of said shaft hole
on said second arm of said bracket with said lugs
extended into said receiving hole from two opposite
sides thereof; and said locating ring is provided
20 on an inner circumferential edge with a straight
section corresponding to said flat surface of said
swing-stop section on said shaft section, said
locating ring being mounted on said shaft section
with said straight section bearing against said flat
25 surface of said swing-stop section, enabling said

locating ring to locate on said pivot shaft without turning relative to said shaft section.

9. The hinge structure as claimed in claim 1, wherein
5 said clam-type electronic apparatus is a notebook computer.